

Panel 1

Sustainable development is...

The United States of America envisions a world in which people act as trustees of this earth, of its atmosphere, its ocean, its flora and its fauna. We envision a world in which every household has access to safe drinking water, sanitation and energy. We envision a world in which children can grow to adulthood free from disease, hunger, and the scourge of poverty, a world in which all children have access to schooling that leaves no child behind and lays the foundation for productive employment. We envision a world free from all forms of racial and gender discrimination in which all women and men can develop to their full potential. This is our vision of sustainable development

To feed, clothe, educate and empower a growing world population while protecting the fundamental base upon which they depend—the natural environment—will require not only new methods and technologies, but a new way of thinking as well. Our schools, universities, research organizations, businesses, governments and civil society organizations must all be part of this creative process. The engines of growth for the 21st century are being developed today in our academies, just as the seeds of the Internet were developed in the early-mid 20th century.

In our national preparations for the World Summit on Sustainable Development, the people and government of the United States are grappling seriously and energetically with the complex issue of what steps are needed to support sustainable global development.

These are not simple issues that can be met with simple solutions. Many of our best scholars, government and business leaders, and citizens have worked with others around the world to develop a better understanding of these issues. Our business community appreciates the needs, responsibilities and opportunities that sustainable patterns of production and consumption imply.

We know we do not have all of the answers. But by looking at success stories in our country and around the world, we hope to understand better how societies progress and how to foster best practices to ensure long-term progress and development. We are committed to marshaling the power of human thought and spirit, the opportunity of the market and the guiding hand of government to create the conditions and processes that will lead to greater sustainability.

Panel 2

We have learned many things in the decades since the 1972 Stockholm Conference on the Environment. Stewardship of natural resources is improving in many areas, but problems remain. Today, we are working to build upon the successes. This Summit is about all nations and people learning and working together to foster sustainable economic development and be better stewards. Since Stockholm, the United States has developed a broad range of public and private laws, programs and practices to protect our environment. We have to learn from them and adapt them widely. The challenge that remains from Stockholm is finding the ways to manage our natural resources sustainably while providing for our citizens.

We have learned that there is much we do not know about the natural world and our relationship with it. From learning what species exist on earth and understanding their life cycles to creating economically sustainable production processes that do not pollute. We are mindful of the research and development must be undertaken. Sound science must underpin our efforts.

We have learned that simple answers and slogans rarely solve problems. The issues are complex and multifaceted. Simply reducing consumption can create economic recessions, while simply increasing productivity can contribute to environmental problems. Sustainable development is about integrating environmental, social and economic needs and goals. It will take collaborative work, learning, change and adaptation. . It will take lots of experimentation and growth. It will require a sustained long-term effort that begins with practical partnerships. We can expect honest disagreements over needs and processes, but we must pragmatically seize the solutions that work and discard those which do not, regardless of ideology.

We have learned that there are people around the world making a difference and creating sustainable development in many different ways. In this exhibit, we highlight the capacity of people, communities, businesses, groups and nations to be creative and move us forward. We *are* working together, we *are* learning from each other, we *are* changing and we *are* adapting. Together we will create a sustainable future.

Panel 3

Sustainable development is... ... a concept still being defined.

Over human history, many communities have lived in an unsustainable fashion, and they paid a heavy price—damaged soils, drought, disease and local pollution. This led to local population collapses and drove people to abandon their lands and homes.

Sustainable development is not a steady state – it is a process that unfolds as we learn more and advance economically, socially and as environmental stewards.

The growth of human population, the advancement of our technologies and the human impact on the natural world have combined to make it essential that we understand the natural systems in which we live and our dependence upon them as we seek to improve people's lives around the world. Sustainable development requires all people and societies to integrate a variety of needs—social, economic and environmental. Sustainable development is neither just having more nor saving more. In the years since the concept was first articulated, many papers and books have been written to explain what it might be. Many more will be written. This is why sustainable development is **a process about learning.**

Health-Population-Environment Program Integration

In Madagascar, the U.S. is supporting partnerships linking community-based natural resource management with interventions to improve health, using such partnerships to better serve these complementary goals. The forests of Madagascar are home to some of the world's rarest and most endangered flora and fauna, critical for the maintenance of watersheds which local people depend on for agriculture and other daily uses. Yet these forests are threatened by local population and economic pressures.

In order to address deforestation and the poor health status, food security, and livelihoods of the surrounding communities, partners including the U.S. Agency for International Development (USAID), international and Malagasy foundations, and non-governmental organizations, created a health-population-environment consortium, "Voahary Salama" (Malagasy for "human health along with all that is natural"). Voahary Salama helps reduce the population and economic pressures which in turn reduce forest fragmentation and ecosystems destruction, leading to improved food security, conservation of biodiversity, more and cleaner water, better health, and less poverty.

Panel 4

Sustainable development is... ...a process about learning

Education is a foundation for all long-term social and economic development, and a cornerstone of sustainable development. Sustainable development benefits from improved educational opportunities in all countries. Educational technologies are constantly changing. With the increasing use of the Internet, many people are exposed to more information on a daily basis. Communication and interaction among students and teachers has increased, resulting in both more and better learning. By installing these new technologies into the classroom, sustainable means of development will be within much closer reach of young minds. Lifelong education outside of the classroom is key to sustainable development. The internet and other educational technologies will also enable people, as citizens and workers, to make more informed and better decisions.

GLOBE Program

The GLOBE (Global Learning and Observation to Protect the Environment) Program is a collaborative effort, sponsored by the U.S. government in partnership with 140 colleges and universities as well as several state and local governments across the United States. Originally focused on the United States of America, the GLOBE Program has grown to include 95 developed and developing nations on six continents.

Over 10,000 schools now participate in this program, which directly links scientists with millions of students around the world. Students take measurements of atmospheric conditions, soils, hydrology and fauna, and report the data collected to a central archive. Scientists and other students can then collaborate globally to understand and analyze their findings. The GLOBE program's website provides students with analytical tools such as graphs to help them understand patterns and trends. The site also provides teachers with lesson plans and assistance in recruiting new participants. GLOBE trains students to appreciate the intricacy of data collection and analysis. More importantly, it helps them gain a comprehensive understanding of the environment by linking them to peers and experts in a range of fields.

Brazil: Electrification and Educational Technology

Mobile and modular renewable energy technologies are now bringing electric power to some of the most remote parts of Brazil. As a direct result, technology and the Internet have entered the classroom in some of the poorest and most remote regions of Brazil.

Supported by USAID and Winrock International, the program began by installing a 2-kilowatt array of solar cells that tripled the input of energy to the Cunha Lima Agricultural Family School in Bahia, Brazil. With that added electricity the school now provides the energy needed to power various electronic tools for learning.

Now the classrooms of the school have lighting, with enough additional electricity to run a radio, a TV with a VCR, and a refrigerator. A planned expansion of the

program includes the purchase and powering of five additional PCs. A rural cell phone will also be purchased so that students will be able to connect their new PCs to the Internet and be exposed to its vast educational resources.

Panel 5

Sustainable development is... ...a process about learning

Civilization is built by continually acquiring knowledge and wisdom. And so it is with sustainable approaches to agriculture. Sustainability is characterized by the use of methods that improve the underlying productivity of natural resources that produce food and fiber while ensuring that food is safe and wholesome and which provides acceptable incomes to support a decent standard of living for farmers. Our future lies with farming techniques that eliminate soil erosion and depletion, stop the loss of local biodiversity—particularly vital pollinators--and that help protect watersheds. New, sustainable methods of farming can not only feed the world and improve the living standards of farmers; they can also help improve the surrounding environment. In all types of agriculture--from subsistence to agro-business--learning creates new, better practices that promote sustainable development.

Core 4 Program

New conservation techniques are helping American farmers fight soil erosion and water retention problems. The United States Department of Agriculture's Core 4 principles provide four precepts for sustainable farming: conservation tillage; crop nutrient management; integrated pest management; and conservation buffers.

Each precept helps farmers minimize negative environmental impact. By reducing tillage, farmers can reduce soil erosion and improve water retention. Farmers can also cut down on fertilizer use by carefully timing the application of nutrients, saving money and reducing the risk of water table contamination. Integrated pest management reduces the need for pesticides. Finally, conservation buffers protect land and water from runoff waste and erosion. When applied carefully, these techniques can greatly increase crop yields while maintaining the quality of farmland.

Core 4 researchers use these principles to develop targeted "how-to" resources for farmers wishing to create sustainable farming systems. A step-by-step planning process allows for experimentation and critical analysis. It is but one example of ways USDA research helps state agricultural agencies, universities, and the private sector, work with farmers to improve the conditions of farming and obtain better yields.

Implementing Sustainable Agriculture and Maintaining Organic Status

Sustainable agriculture techniques can be employed by any farm, from large businesses to small family farms. One family that incorporated sustainable agriculture into their farm was the Alvarez family in New Mexico. They have reduced pests and continue to produce economically-viable organic cotton.

The Alvarez family farm has been producing cotton since 1975. In the early 1990's, the Alvarez family researched the economic benefits of applying sustainable agricultural practices. Noting the high demand for organic cotton, and concerned about the health of their young children, the Alvarezes converted to organic

farming in 1993. The Alvarez family is proud of their organic conversion and contribution to a healthy environment.

An infestation of boll weevil, a harmful beetle for a cotton crop, broke out in 1998 in New Mexico. Without using pesticides, the Alvarez family managed to control the infestation and meet the needs of the local farm board. Certain fields were quarantined and, using traps and integrated pest-management techniques, the farm remains pesticide free.

Panel 6

Sustainable development is... ...a process about learning

Sustainable development means investing in the future. However, in areas where poverty and instability threaten day-to-day existence, short-term survival takes precedence over long-term development goals. Capacity-building initiatives can bridge the gap between present needs and a more promising future. By providing the means to invest in children, technology and institutions, capacity-building projects bring our world closer to a more sustainable tomorrow.

Child Labor

Child labor is a worldwide problem requiring a concerted global response. The U.S. Department of Labor (USDOL) is helping advance the global campaign against the worst forms of child labor by funding projects that remove children from hazardous work and provide them with educational and training opportunities.

The International Labor Organization (ILO) estimates that 211 million children between the ages of five and 14 worked in 2000. Millions of these children do not attend school and work under hazardous conditions. USDOL works with the ILO's International Program on the Elimination of Child Labor and other organizations to fund educational and vocational training programs that move children out of hazardous work and into schools. These programs help students acquire the basic education and vocational skills needed to become productive future members of the workforce. To date, USDOL-funded programs have provided approximately 100,000 working children worldwide with educational opportunities and assistance.

Leland Initiative

The USAID Leland Initiative brings the benefits of the Information Revolution to the people of Africa through connection to the Internet and other emerging technologies. The Leland Initiative commemorates the life of Congressman Mickey Leland, a tireless advocate for Africa and the fight against hunger. The Leland Initiative promotes the development of a strong local Internet Service Provider industry through economic incentives and a pro-competitive policy environment. For example, Leland pricing reforms are saving Kenyan consumers more than US \$20 million per year in reduced access charges.

The Leland Initiative also helps develop a vibrant market of Internet users capable of applying the powerful tools of the Internet to their daily challenges in commerce, health, education, environment and good governance. In Ghana, the Initiative has supported numerous Community Learning Centers that help citizens make use of the Internet. In the Congo River Basin, the Initiative is helping scientists share data to protect rainforests and biodiversity. In Uganda, the program is helping Teacher Training Centers build skills of graduating primary school teachers, while increased access to the Internet is helping local artisans in Kenya and Uganda reach a global audience by marketing their products online.

Currently, the Leland Initiative is working in more than 25 African countries.

Panel 7

Sustainable development is... ...build upon fundamental building blocks.

Transparency, the rule of law, public participation, and access to information are the hallmarks of societies that are committed to sustainable development. With a commitment to such procedures, societies can have the trust needed in their public and private institutions. These institutions then act as models of citizenship by helping communities overcome barriers to sustainable development. Over the last several years many groups around the world have been creating new ways of increasing participation in economic, social and environmental stewardship. These changes often take the form of growth in non-governmental organizations and a shift in authority towards local communities. These changes give people greater means to take charge of their own lives and make us collectively better stewards of natural resources. This is why sustainable development is about **creating and enabling conditions**.

Landfill and Superfund Site

Landfills are an important component of waste-management, but older sites can pose sanitary and environmental dangers. America's federal Superfund program, administered by the U.S. Environmental Protection Agency (EPA), is in its third decade of work cleaning up hazardous waste sites. Hundreds of sites have been cleaned up, and many more are in progress. The government is devoting more resources to these cleanups, and recent legal reforms have removed barriers to the redevelopment of these sites.

In North Smithfield, Rhode Island, erosion from the Landfill and Resource Recovery, Inc (L&RR) disposal site threatened migratory bird habitats and wetlands. The EPA interceded, naming the L&RR landfill a federal Superfund site. As part of the Superfund process, the EPA, the state of Rhode Island and the Potentially Responsible Parties agreed to pursue wetlands restoration in the vicinity of the site to compensate for habitat damage caused by erosion. Under the terms of the settlement, the private parties agreed to contribute US \$525,000 to purchase conservation easements within the local watershed. The purchase included a 12 -hectare former drive-in theater identified by scientists as on the most significant wildlife marsh in northern Rhode Island as it is a key stopover for migratory birds along the Atlantic flyway. The Army Corps of Engineers is currently reconstructing the area's wetlands.

SMARTWork

The devastating impact of AIDS, particularly in developing countries, has led governments, employers and workers to recognize the need for effective corporate policies on HIV/AIDS and workplace prevention-education programs. SMARTWork, a U.S. Department of Labor program executed by the Academy for Educational Development, helps businesses and workers respond to AIDS, which affects over 25 million people in the prime of their working lives. The program helps governments, employers and workers to implement comprehensive workplace-based HIV prevention and education programs and provides technical assistance to develop supportive HIV-related policies.

Programs like SMARTWork enable employers and employees to respond effectively to the widespread impact of the AIDS epidemic. By helping contain the AIDS crisis, these initiatives are laying the foundation for future development.

Panel 8

Sustainable development is... ...creating jobs and enabling conditions

Small and medium sized enterprises are important engines of economic growth, innovation, and creativity. Governments at all levels can help create conditions where these businesses can develop and grow, innovate and lead.

A Geothermal Fish Tale

Using naturally hot water from Idaho's geothermal springs, one enterprising farmer grows warm-water fish and alligators without relying on outside sources of heat. Leo Ray, the founder of Fish Breeders of Idaho, introduced geothermal aquaculture to the region, allowing him to harness the earth's natural warmth to raise fish year-round. Hot geothermal water flows under natural pressure to Ray's first tank. As it cools, it flows through a series of progressively cooler tanks of water, each with its own species of warmth-loving fish. Ray now sells tilapia, trout, Snake River white sturgeon and catfish.

And alligators. Ray's success at raising fish also raised a challenge—disposing of over 100,000 kilos of processed fish waste each year. After seeing the market growth for alligator meat and hides in the 1980s, Ray knew that geothermal water would provide yet another solution. Alligators could turn the fish waste into valuable hides and meat. Ray's alligators grow four times faster than their brethren in Louisiana; since 1995, Ray has processed 3,500 alligators at an average length of over 2 meters. Publicity about his success in the Department of Energy's publication *Geothermal Today* has even reached Iceland, where a city is considering a "Krokodil Plan" to raise alligators in a geothermal power plant in order to dispose of fishing-industry wastes.

Community-based Forestry

One of our greatest challenges of sustainable development is learning how to make sure economic, social, and environmental components get integrated into real, on the ground management approaches and land practices. Community-based forestry does that.

We know that people learn best when they learn from each other – farmer to farmer, forester to forester – from the hard-won experiences of people like themselves.

The National Community Forestry Center, supported by the U.S. Department of Agriculture, helps rural people in forest-based communities ask and answer questions related to the well-being of their forests and themselves. The Center helps forest practitioners improve their capacity to solve problems, especially when faced with challenges of land and resource degradation, unemployment, and emigration, and engage in a wide variety of enterprises including watershed protection and restoration, eco-tourism, job training, non-timber forest products, and value-added wood manufacturing.

Panel 9

Sustainable development is... ...creating jobs and enabling conditions

Sustainable development requires adjustments. Making the transition means phasing out unproductive practices, abandoning old technologies, or even closing traditional industries. Fortunately, humans are surprisingly adaptable, flexible and ingenious. These traits help individuals and communities seek out new niches and opportunities to replace old, outmoded practices. With foresight, coordination and creativity, sustainable development can also mean the creation of jobs and enabling conditions.

Coast of Maine

Lobster shells and rotten fish hardly seem worth saving, but an enterprising company in the state of Maine is turning seaside wastes into gold. Coastal industries like fishing, clam digging and lobster harvesting produce over \$500 million each year for the Maine economy, but overfishing and technological change have reduced economic opportunities in these sectors. Microcredit and community development campaigns, however, have started to unearth new sustainable opportunities for the people of Maine.

When it became clear that Maine communities would need to adapt to changing economic realities, Coastal Enterprises, Inc. (CEI), a community development organization, stepped in with venture capital and strategic advice. CEI offers small loans to new enterprises that have the potential to advance economic and social development in the communities of coastal Maine.

One of its most successful projects, Coast of Maine Organic Products, takes wastes from fish processing plants and turns them into high-value organic compost that is marketed at upscale garden centers throughout the Northeast United States. The business simultaneously solves a major disposal problem for Maine's marine industries and helps suburban gardeners replace chemical fertilizers with organic ones.

Green ACRES

Cars and tractors made of vegetable fibers? It sounds like magic, but scientists are successfully turning common crops into sustainable alternatives to petroleum-based plastics and other conventional building materials.

Renewable technologies can be safer and more cost-effective than their conventional equivalents. Some automobiles fabricate fiberglass door panels from the fibrous stalks of the kenaf plant, a 5-meter tall, inedible member of the hibiscus family. These panels are lighter, stronger and cheaper than those produced by other prevailing technologies.

Other promising technologies are in development. The University of Delaware's Affordable Composites from Renewable Sources (ACRES) program is a pioneer in the creation of sustainable industrial products. ACRES has begun to research methods of building lightning-fast microchips built from chicken feathers, plastics

made from soybean oil, and fiber-based “woodless lumber.” ACRES’s innovations will have diverse industrial applications, but they share a common approach to sustainable development. By examining industrial products currently in demand and searching for existing wastes or easy-to-grow crops that can be used to fabricate them, ACRES creates products and processes for which there is a sustainable market. This work and many other programs to develop innovative products are being funded by the U.S. Department of Agriculture, the National Science Foundation, the U.S. Department of Energy and the U.S. Environmental Protection Agency.

**Sustainable development is...
...creating jobs and enabling conditions**

Caring for future generations is implicit in sustainable development because children are our common future. All mothers need access to prenatal care; likewise, all children need families and communities equipped to care for them. Scientific, medical and educational programs that support the well-being of children and families lay the groundwork for future growth, healthy communities and sustainable development.

Healthy Start

Healthy Start is designed to promote local partnerships to combat infant mortality by better utilizing community resources. The U.S. Department of Health and Human Services, in partnership with communities, providers, NGOs, and authorities, created a program model that uses social mobilization to build community consortia, the training of community members to assure early entry into prenatal care, continuation of care, health education and promotion, and the introduction of performance measures to achieve significant improvement in overall maternal, infant and child health status. Healthy Start has grown six-fold in the last ten years, helping reduce infant mortality in communities around America and contributing to a decline in the U.S. national infant mortality rate to an unprecedented low of 6.9 per 1,000 live births in the year 2000.

Healthy Mothers, Healthy Children

Ensuring safe motherhood and the survival of newborn infants is the first step in safeguarding the health of children, women, families and ultimately, the whole population. USAID programs support maternal nutrition, provide health care during pregnancy, promote safe childbirth and improve the care of mothers and newborns.

Since healthy mothers are more likely to raise healthy babies, caring for mothers is one of the most effective ways to protect infants. As the largest bilateral donor of reproductive health assistance to the developing world, USAID has successfully promoted prenatal education, skilled birth attendance and breastfeeding programs around the world. In Bolivia, the death rate for newborns dropped to less than half of previous levels after women received training in safe-birthing techniques. Births attended by skilled assistance have increased substantially in most regions where USAID motherhood programs are underway.

Sustainable development is...

... a human concept. When communities take ownership of their development, balancing their interest in economic growth with social development and environmental stewardship, they can find solutions to build the future they envision. By providing communities with information how others have faced the challenges of sustainable development, we can help empower all in the transition to sustainability. Scientifically sound, community-led efforts offer great hope for sustainable development. These efforts provide solutions at the scale in which people actually know and experience problems. By working together in their localities and linking with other groups and areas, we are creating another world-wide web—one of people sharing solutions and building the tomorrow they envision. This is why sustainable development is created by **communities**.

Green Communities

The U.S. Environmental Protection Agency's Green Communities Program empowers communities to envision and implement locally relevant strategies for environmental management. Using an Internet-based "Green Communities Assistance Kit" developed by the U.S. EPA, communities can access program information, technical advice and case studies to apply in their own planning decisions (www.epa.gov/greenkit). Over one million U.S. citizens live in Green Communities that have taken the initiative to make the transition to sustainability.

The "Green Kit" encourages communities to reflect on use and sustainability of their resources. "Where are we now, where do we want to be and how do we get there?" are the central questions that local citizens need to ask. After intensive dialogue and consultations, communities create a local action plan to create a healthy environment, a vibrant economy and a high quality of life.

ACWF

Water is the basis for all life, and careful stewardship is necessary to guarantee a clean and safe supply. America's Clean Water Foundation (ACWF), a non-profit organization dedicated to the sustainable management of water resources, gets citizens involved in outreach and education on clean water issues.

ACWF operates several community-based programs designed to improve water quality and stewardship, with support from the U.S. Department of Agriculture and the U.S. Environmental Protection Agency. ACWF provides communities with advice and technical support on watershed management and conducts free on-farm assessments to help agricultural producers minimize their environmental footprint. The organization also engages the public through community-based dialogues on water resources. By adopting a public, collaborative and scientific approach to clean water issues, ACWF gives communities the tools they need to safeguard their water supplies.

Panel 12

Sustainable development is...
...communities

In many ways, indigenous communities maintain unique relationships with their local ecology. Indigenous people in many countries and regions have taken up sustainable development as the model for the future. Adapting traditions with new understanding and processes, indigenous cultures have been able to contribute to the growing pool of sustainable ideas by adding their unique insight into their land and its stewardship. Together with the other members of their larger communities, indigenous cultures have been able to implement many working models of sustainable development.

Native Americans and Bison

In partnership with the U.S. Environmental Protection Agency, Native American tribes are merging traditional practices with modern technologies to achieve sustainable development. In the Great Plains of the United States, residents of various Native American reservations have used principles of sustainable development to address critical problems related to health, environmental degradation and weakening social structures.

Great Plains bison once played a central role in some Native American cultures, but they nearly disappeared with the development of the American frontier. The Intertribal Bison Cooperative (IBC) has worked to obtain bison donations and to distribute these animals to participating tribes, who also receive training in bison management and ecology. Collaborators also identified small-scale bison-hide tannery techniques and developed a model tannery business plan to capture added economic value from bison. Meanwhile, tribal elders helped share their experiences and memories of bison with younger tribal members, ensuring the transmission of traditional knowledge and culture.

The Kuna Cooperative and Mola

The Kuna Indians have been residents of Panama for the last several centuries. Towards the end of the 19th Century, Kuna women began producing what is known as a mola. A mola is a tapestry of cloth which is created from a unique method of appliquéing fabrics and colors in geometric or idiographic patterns called muga or "grandmother design."

In 1964, with the help of the Peace Corps, the Kuna established the Cooperativa Productores de Molas, a cooperative that makes mola products for the economic benefit of the region. The co-op, which is run by local women, has been an important vehicle for empowering women in the region. The co-op provides an opportunity for women to collaborate in both local and international markets to sell the goods they produce. The production of clothing has become a significant component of the economy in the autonomous province of Kuna Yala.

Panel 13

Sustainable development is... ...communities

When people with different experiences and world views come together to offer their opinions and advice, and create a pool of ideas and expertise, they often find constructive solutions to difficult and contentious problems. With cooperative and consultative processes in place, people are more likely to bring constructive ideas to fruition.

Sustainable Forest Management Certification

Deforestation and illegal logging have become critical global problems, but innovative initiatives by non-governmental organizations, private companies and the public sector are helping consumers contribute to sustainable forest management.

The Forest Stewardship Council (FSC), for example, has become a leader in the certification of sustainably managed timber; covering 319,000 square kilometers in 57 countries. FSC establishes standards and criteria for sustainable forest management and certifies producers, such as The Home Depot, which implement them.

The Sustainable Forestry Initiative is the result of public and private organizations coming together through the leadership of American Forest & Paper Association (AF&PA) members. In 2001, governance of the SFI Standard was shifted to an independent Sustainable Forestry Board (SFB) composed of conservation and environmental organizations, professional and academic experts and forest industry leaders.

Both programs evolved from the vision of sustainable development in Rio and seek to improve forest management practices.

Malpai Borderlands Group

Cattle ranching is a way of life in the arid grasslands of the Malpai Borderlands, a region that lines the U.S.-Mexico border at Arizona and New Mexico. But years of artificial fire suppression have changed the border landscape, and woody shrubs have supplanted the native grasses upon which livestock depend. In 1993, a group of ranchers came together to discuss fire management problems in a meeting that eventually spawned the Malpai Borderlands Project, a highly successful land management partnership.

Since its inception, the Malpai Borderlands Group has developed into an organized collaboration between ranchers, university researchers, environmental organizations and government agencies. The Group coordinates policies that protect native habitats and minimize the environmental impact of cattle ranching. It serves as a stakeholder's forum where information and resources are shared. The group has developed innovative strategies for land management, including the use of conservation easements to prevent habitat fragmentation, the selective use of controlled wildfires, and the development of "grass banks" to provide food for

cattle during droughts and other emergencies. Careful research and a spirit of cooperation have helped members of the Malpai Borderlands Group protect their way of life—and the environment upon which it depends.

**Sustainable development is...
...communities**

No images are more searing and stories more touching than those around major disasters. We are horrified by the damage and uplifted by the community spirit and resolve to rebuild and recover. But we continually learn how to build and construct our communities to withstand earthquakes, hurricanes, and floods, how to manage forests to contain and use fire ecologically, and how to develop systems to warn, respond, and mitigate the effects of extreme events.

Disaster Mitigation after Extreme Weather Events

Overcoming and preparing for disasters is a crucial component of sustainable development. When Hurricane Mitch hit Central America and Hurricane Georges struck Hispaniola in 1998, the human, economic and social costs of the disaster were enormous.

The United States Agency for International Development (USAID), the Department of Defense and the U.S. Federal Emergency Management Agency immediately stepped in to assist. Along with short-term aid and reconstruction, these agencies, joined by the U.S. Departments of Agriculture and Interior, worked with the affected countries to develop disaster mitigation strategies. For example, in the Dominican Republic's densely populated barrios, located on plains highly vulnerable to flooding during hurricanes, 2,500 local leaders were trained in disaster preparedness. NGO efforts were funded to reduce soil erosion through reforestation and improved management, protecting over 9,000 hectares of forested land. Armed with mitigation plans and crisis management experience, the people will be better prepared if disaster strikes again.

Mozambique after Flooding

Efforts to repair infrastructure damage to an area hit by a natural disaster that go hand-in-hand with efforts to prevent damage caused by future disasters are important factors in continuing sustainable development. The United States Agency for International Development worked with the international community and the local government to set such a plan into motion to assist the people of Mozambique after the floods of 2000.

Severe flooding of the Limpopo River caused unspeakable losses of human lives in addition to severe economic damage. Parts of the country's rail system, which links its ports with neighbors South Africa, Zimbabwe and Malawi, had been completely washed away, harming industry and relief efforts. The U.S. provided over \$132 million in emergency aid to Mozambique, focusing on reconstructing rails to survive future floods. Additionally, mitigation programs were established and grants provided for the resettlement of the displaced. Despite hardships, Mozambique's economy rebounded in 2001, growing over 10 percent.

**Sustainable development is...
... a multidimensional and interdisciplinary concept.**

Often, we find better solutions when we integrate approaches that draw on the information and successes of seemingly disparate fields. We need not choose between valuing the past and protecting the future. Sustainable development includes preservation of cultural icons and deep traditions while moving into the future. Cooperation between all stakeholders--public and private, corporate and citizen, local, regional and national-- creates the basis for successful long-term stewardship of our natural and cultural resources. International cooperation among governmental and private entities can promote and facilitate community-based action, voluntary initiatives and the role of local organizations and contribute toward the achievement of sustainable development goals. This is why sustainable development is created through **partnerships**.

Illegal Wildlife Trade

The illegal international trade in wildlife and plants, particularly of protected or endangered species, poses a major threat to global biodiversity. In a US \$10 billion market, poachers illegally export plants and animals from their natural habitats to industrialized countries. This trade directly reduces wild populations, further jeopardizing the survival of already threatened species.

The United States is a signatory to the Convention on International Trade in Endangered Species (CITES) and is dedicated to vigorous enforcement of its terms. The U.S. Department of Justice works with customs officials around the world, the U.S. Fish and Wildlife Service, the USDA Forest Service and other agencies to enforce strong environmental laws against traffickers in endangered plants and wildlife. Violators are subject to criminal sanctions under specific trafficking statutes and other federal regulations that bar money laundering, smuggling, conspiracy and tax violations.

The global nature of the wildlife trade also necessitates close international cooperation. U.S. agencies work with INTERPOL, foreign governments and multilateral agencies to protect endangered wildlife against predation.

Morton International, Inc.

Environmental rules mean little unless they are strictly enforced. In the last year, EPA has set new records for vigorous enforcement of environmental laws. EPA has also undertaken new initiatives to build stronger partnerships with state agencies for enforcement. In 2000, EPA recovering the largest civil fine ever assessed on a single facility.

In 2000, the United States and the State of Mississippi lodged a criminal plea with a \$2 million fine, and reached a civil settlement for violations of the Safe Drinking Water Act, Clean Water Act, Clean Air Act, and laws governing hazardous waste and toxic substances. Morton agreed to pay a \$20 million civil penalty.

Morton also agreed to conduct a comprehensive site investigation, undertake third-party national audits of all 23 of Morton's other chemical manufacturing facilities, spend \$10 million on a pollution prevention/reduction plant project, \$4 million for a sewer replacement project for the City of Moss Point, and \$2 million on a research project on environmentally friendly chemistry at the University of Southern Mississippi. EPA's groundbreaking prosecution demonstrated that pollution doesn't pay, but polluters do.

Panel 16

Sustainable development is... ...partnerships

The defining feature of our planet is that it supports life. The variety of life forms, including the variety of genes, species and ecosystems, is known as biological diversity, or biodiversity. It provides the critical goods (food, medicines, materials...) and services (clean water, nutrient cycling...) that make economic prosperity and human survival possible. In short, it is necessary for sustainable development.

Monitoring and Assessment of Biodiversity

How do people know what is sustainable? Scientific information and biodiversity conservation principles must inform environmental impact assessments, research practices and long-term management and policy decisions.

In Madagascar, the Smithsonian Institution consulted with a minerals extraction company to help reduce the impact of mining on littoral forest ecosystems. In Peru and Gabon, the Smithsonian consulted with Shell Oil to promote conservation projects, resulting in decisions to limit road construction and to maintain an offshore drilling policy to minimize the impact on biodiversity. This partnership grew into the multi-stakeholder Energy and Biodiversity Initiative (EBI), a group whose members include representatives from four major energy companies and five leading conservation organizations.

EBI members meet on a regular basis to share experiences and consult with other stakeholders. Through sustained dialogue and information exchange, group members work to find cooperative solutions that integrate environmental protection into corporate best practices. By linking scientific principles to political and economic decision-making, partnerships like EBI link research to conservation policy, facilitating sustainable development.

ICBG

The International Cooperative Biodiversity Groups (ICBG) Program is an integrated conservation and development program which addresses the interdependent issues of biodiversity conservation, sustained economic growth and human health in terms of drug discovery for diseases of concern to both developing and developed countries. The funding for this program is provided by the National Institutes of Health, National Science Foundation and US Agency for International Development. ICBGs create institutional capacity and incentives for conservation through sustainable bioprospecting programs, drug development research and biodiversity education.

Efforts to examine the medicinal potential of the earth's plants, animals and microorganisms are immediately necessary because habitat destruction and diminishing biodiversity will make research increasingly difficult in the future. Forty to fifty percent of currently used drugs originate in naturally occurring compounds, many of which are native to currently endangered habitats. ICBG groups are working in ten countries in Latin America, Africa and Asia, building

research capacity in 20 different institutions and training hundreds of individuals to catalog and study the earth's biodiversity.

Successful pharmaceutical product development can, under appropriate circumstances, promote scientific capacity development and economic incentives to conserve biodiversity. Already, ICBG researchers have collected thousands of specimens of plants, animals and fungi to examine biological activity in 19 different therapeutic areas. The project has yielded numerous publications in chemistry, biodiversity policy, conservation and ethnobiology.

Panel 17

Sustainable development is... ...partnerships

Partnerships that share knowledge are a valuable tool for building our common future. In the modern world, we have an unprecedented ability to share information and knowledge. Partnerships between diverse organizations can spread timely information and learning to those who need it most. This World Summit must also be the World Summit on Sustainable Partnerships.

Eco-tourism

Eco-tourism proves that protecting the environment can make good business sense. U.S. federal agencies are working with partners around the world to unleash eco-tourism's potential for sustainable social and economic development.

Sustainable eco-tourism requires careful environmental management and must provide unique educational experiences. When the government of Panama launched a new learning-based partnership to develop sustainable eco-tourism, the Smithsonian Tropical Research Institute (STRI) helped developers integrate scientific research into every step of the process to promote effective wilderness conservation and educate tourists. Scientific advice minimizes tourism's impact on the fragile tropical environment by grounding development in sound science.

USAID, the USDA Forest Service, the National Park Service, the Smithsonian and other U.S. agencies help governments implement policies to attract effective investments in eco-tourism. In Costa Rica, Jamaica and Sri Lanka, U.S. support helped create new wildlife parks and tourist facilities. In Ramanofana National Park in Madagascar, U.S. agencies worked closely with government and local organizations to help nearby communities build schools, health centers and income-generating activities. Partnerships improve parks management and create jobs for tour guides, park rangers and educators. They demonstrate that careful management and cooperation can integrate environmental protection, private enterprise and community development.

FEWSNet

Sub-Saharan Africa faces natural and man-made threats that leave the region vulnerable to famine. Using the latest in scientific, economic and social research, the Famine Early Warning System Network (FEWS NET) saves lives by helping to avert famines before they begin.

Unlike floods or other disasters that strike without warning, droughts and crop failures unfold gradually, providing ample time for decision-makers to prepare and take preventive action. The U.S. Agency for International Development, in collaboration with US Department of Agriculture, the National Oceanographic and Atmospheric Administration and the US Geological Service, created FEWS NET, a system that integrates scientific, economic and social data to detect famine risk in time to intervene. Atmospheric data can forecast droughts, while data on social conflicts or market fluctuations can predict problems with food access that may lead to widespread famine.

FEWS NET is building local networks that link analyses with public action to prevent famine. With partners in 17 African nations, FEWS NET is actively developing locally based, sustainable information systems.

In the year 2000, early warnings helped USAID and its partners avert famine in the Horn of Africa, saving thousands of lives. By mobilizing information to coordinate relief efforts efficiently, FEWS NET helps decision-makers around the world in their fight against hunger. The mitigation efforts for the 2002 famine in southern Africa are being greatly assisted by the existence of the FEWS NET system.

Panel 18

Sustainable development is... ...partnerships

Richer than non-profits and more agile than governments, foundations can be a powerful force for sustainable development. Individuals from jewelry designer Elsa Peretti (Tiffany) to technology greats Gordon Moore (founder of Intel) and Bill Gates (founder of Microsoft) and media giant Ted Turner (CNN) have created foundations to help communities develop the understanding and tools necessary to live sustainably. These new organizations build on the work begun by the Ford and Rockefeller Foundations, as well as the more recent Pew, MacArthur and Heinz Foundations.

Through activities such as convening meetings to analyze current issues and examine future scenarios, supporting hands-on development projects, and strengthening capacity around the world through educational programs, these foundations work in partnership with government, the private sector and other non-profit organizations. Foundation partnerships combine private sector resources and social sector expertise, facilitating mutual learning and accelerating the pace of sustainable development efforts.

The Global Alliance for Vaccines and Immunizations (GAVI)

Every ten seconds, a child dies of a vaccine-preventable illness. The U.S. is an important supporter of The Global Alliance for Vaccines and Immunization (GAVI), formed in 1999 with an initial contribution of \$750 million by the Bill & Melinda Gates Foundation to help ensure that every child in the world get appropriate immunizations. GAVI partners include governments, international agencies, foundations and industry associations who cooperate to provide vaccines for the estimated 25% of children worldwide who lack access. Both USAID and the U.S. Department of Health and Human Services' Centers for Disease Control and Prevention provide ongoing technical support to GAVI, including assistance to countries in the development of plans to introduce new vaccines and strengthen routine immunization activities.

The U.S. complements GAVI with country-level partnerships designed to strengthen routine immunization infrastructure by improved planning and monitoring; improved donor coordination; activities to increase demand for vaccines; increasing safe injection practices; improving waste management; and strengthening of cold chains. By mobilizing an international network of donors and technical agencies committed to child vaccination, GAVI hopes to achieve 80% immunization coverage by 2005.

Land O'Lakes School Milk Program

School children need to be adequately fed before they can fully take advantage of educational opportunities, yet millions of children do not benefit from adequate nutrition. The United States Department of Agriculture and Land O'Lakes Foods, Inc. have created an ongoing school milk program designed to support students as they pursue educational enrichment. This program helps attract students to attend

school, and also helps them make the most of their educational opportunities while in school.

Through the program, nearly half a million Indonesian children receive milk and biscuits fortified with important nutrients each day. Land O'Lakes also sponsors classroom initiatives that teach children about good nutrition. Similar programs are underway in Vietnam and Bangladesh, where over half a million more children will benefit. School milk programs offer incentives for parents to send their children to school. In Bangladesh, a pilot program demonstrated a 30 percent increase in attendance since the program began. By providing safe and nutritious food, the school milk program also helps students nourish their minds.

Panels 19-20: Conclusions and Credits

Panel 21-22: Same as Panels 1 -2

Panel 23

Sustainable development is... ... a concept still being defined.

Over human history, many communities have lived in an unsustainable fashion, and they paid a heavy price—damaged soils, drought, disease and local pollution. This led to local population collapses and drove people to abandon their lands and homes.

Sustainable development is not a steady state – it is a process that unfolds as we learn more and advance economically, socially and as environmental stewards.

The growth of human population, the advancement of our technologies and the human impact on the natural world have combined to make it essential that we understand the natural systems in which we live and our dependence upon them as we seek to improve people's lives around the world. Sustainable development requires all people and societies to integrate a variety of needs—social, economic and environmental. Sustainable development is neither just having more nor saving more. In the years since the concept was first articulated, many papers and books have been written to explain what it might be. Many more will be written. This is why sustainable development is **a process about learning.**

A Multisectoral Response to HIV/AIDS

With 40 million people infected, HIV/AIDS is clearly not only a health issue. The catastrophic impact of HIV/AIDS in sub-Saharan Africa is threatening development in all sectors of society and learning how to manage its impact is key for sustainable development. An effective response to HIV/AIDS requires action from all sectors, both to mitigate the impact of HIV on each sector and to develop a comprehensive approach to prevention, care, and support that will reach the greatest number of people at risk. The U.S. supports multisectoral responses to HIV/AIDS in many of its programs – including, among others, activities in economic growth and micro enterprise development, education, and the support of civil society.

Such diverse sectors require diverse responses. A good example is South Africa, where the U.S. Agency for International Development (USAID) is implementing microfinance activities that help mitigate the household-level economic effects of HIV/AIDS while serving as a means for reaching people with prevention messages. The U.S. Department of Health and Human Services' Centers for Disease Control and Prevention is collaborating with South African trade unions, strengthening their capacity to prevent HIV/AIDS and to address workplace-related issues.

NO ANCHORING AREAS

Learning how to best manage our oceans and shores is a major challenge. The International Maritime Organization (IMO) took a historic step in 2000 by creating a new measure under international law for the establishment of "No Anchoring Areas." This measure allows any country to submit proposals to the IMO for designation of "no anchoring areas" where anchoring is hazardous to a ship or could result in unacceptable damage to the marine. At the same time that it

created this measure, IMO approved the adoption of three mandatory no anchoring areas to protect the fragile coral reefs of Flower Garden Banks National Marine Sanctuary (FGBNMS) and later in the Tortugas. The coral reef communities such as those in the FGBNMS and the Tortugas have taken thousands of years to grow and develop. Anchor damage can destabilize the reef structure, creating loose debris that causes further damage to sensitive species. Even if optimal conditions for regeneration exist, it could still take hundreds and perhaps thousands of years for the reef to return to its condition before the damage. The shipping industry will also benefit from IMO adoption of "no anchoring areas". IMO adoption will ensure that all countries that produce charts for international navigation will mark such areas on their charts. This will inform the mariner of these areas and thus increase compliance with the prohibition. "No anchoring areas" also focus on prevention, instead of enforcement and liability for damage to the resource.

**Sustainable development is...
...a process about learning**

With each step forward, technological progress can make environmental protection easier and more efficient. While industrial production inevitably generates wastes, advances in processing techniques can dramatically reduce or even eliminate releases of hazardous pollution. The discovery and diffusion of new best practices and environmental technologies are helping to “green” industrial development worldwide. By mobilizing information from science, environmentalists and engineers help find cost-effective means for sustainable development.

Green Chemistry

The Environmental Protection Agency’s Green Chemistry Program supports research, development and implementation of innovative chemical technologies that prevent pollution in a scientifically sound and cost-effective manner.

The Green Chemistry Program focuses on all aspects of chemical processes. It supports research and a variety of educational activities, international initiatives, conferences and meetings through voluntary partnerships with academia, industry and the broader scientific community. The Presidential Green Chemistry Challenge Award program recognizes superior achievements in the design of greener chemical products and processes. Award-winning technologies alone are responsible for eliminating the use or generation of more than 69 million kilos and 18 million liters of hazardous chemicals and solvents including CFCs, VOCs, PBTs and other highly corrosive and toxic chemicals. These technologies also have saved more than 1.2 billion liters of water from a broad range of industrial processes.

Phasing Lead Out of Gasoline

Lead, a heavy metal commonly found in gasoline, causes serious physical and mental health problems, especially in children. The United States eliminated lead from its own gasoline in the 1980s, eliminating it completely by 1996, and now works with other countries to facilitate their transition to unleaded fuels.

The United States Agency for International Development and the Environmental Protection Agency have collaborated with the U.S.-Asia Environmental Partnership to produce an Implementer’s Guide to Phasing Out Lead in Gasoline. The guide provides national and local policymakers with information and strategies to assess the costs and benefits of eliminating lead. These agencies have worked with other organizations, including the World Bank and the International Petroleum Industry Environmental Conservation Association, to raise awareness and discuss technical and economic issues surrounding lead phase out throughout the world. Follow-up technical cooperation, based on the handbook, has been instrumental in realizing phase out goals in many countries.

**Sustainable development is...
...a process about learning**

Energy is fundamental to our lives and livelihoods. Particularly in fields like transportation, telecommunications and industrial production, affordable energy sources have fueled revolutionary increases in quality of life. Today, the challenge of rising energy consumption calls for a new revolution: the transition to cleaner and more sustainable energy generation, in both the developed and developing world. Through research and innovation, we are working to increase energy efficiency and the use of clean and renewable sources of energy. Through its support for the Global Environment Facility and other international programs, America provides strong support for programs to bring clean energy technologies to developing countries.

CLASP

The Collaborative Labeling and Appliance Standards Program (CLASP) facilitates the design, implementation and enforcement of efficiency standards for electric products around the world. USAID and the Department of Energy have helped CLASP develop regionally applicable tools, conduct capacity-building exercises and provide technical assistance to partner countries.

Standards are a powerful tool for encouraging energy efficiency. The Department of Energy sets enhanced efficiency standards for appliances and building equipment and provides compliance tools for builders, designers and inspectors. In the U.S. alone, existing appliance standards developed by the government and its industry partners will save American consumers nearly \$50 billion through 2010.

CLASP has also delivered promising results in other countries. In South Korea, the implementation of standards and labeling systems has cut refrigerator electricity demand by 11 percent. In the Philippines, new standards cut air conditioning electricity demand by 25 percent in one year. In the next five years, new washing machine standards in the U.S. will save electricity equal to five coal-fired plants, reduce air pollution equal to that produced by 4.1 million cars and save 45 trillion liters of water.

Solar Power in Gardiner, Mass.

Massachusetts Electric and the New England Electric Company established a pilot solar program with both residential and commercial applications in the town of Gardiner, Massachusetts. Thirty-two private homes were equipped with photovoltaic (PV or solar electric) arrays, each capable of producing 2,195 kilowatt hours (kWh) of electricity each year, thereby cutting home electricity costs by 25-50 percent.

Most of these household PV arrays produce more electricity than the homes consume during the daytime, allowing the electric company to feed the excess electricity back into the main power grid. The electric companies also fitted eight commercial buildings-- including a community college, police station, city hall and a restaurant--with larger PV arrays. These solar electric systems are capable of

producing 1.8 to 7.3 peak kilowatts (kWp). The excess power produced by the homes and the commercial buildings generally is fed to the power grid in the middle of the day when demand for power peaks.

Large-scale programs such as the Gardiner solar program have the potential to eliminate the need to build additional power plants. At the same time, federal support for renewable energy programs on both public lands and in private businesses and homes is increasing. In time, these efforts may contribute substantially to reductions in air pollution and greenhouse gas emissions.

**Sustainable development is...
...a process about learning**

Women are key partners in sustainable development. Since Stockholm, we have seen an awakening to the importance and need of women's empowerment and personal development. Throughout the world, women do much of the agricultural work and preserve biodiversity by saving seed and tending home gardens. Investing in women farmers is an untapped source of productivity gain. New projects by women, programs for women, and a growing recognition of women's human rights issues including violence against women, legal literacy, economic rights and political position are enabling our understanding of the possibilities of sustainable development

Women's Empowerment Program—Nepal

Nearly 70 percent of the 800 million poor people in Asia and the Middle East are women. In Nepal, USAID's Women's Empowerment Program (WEP) helps women reap the benefits of economic development by increasing their literacy and participation.

In WEP's 18-month literacy program, trained women teach illiterate women to read and write. As the program progresses, women use these skills to become more active participants in civil society by learning about their legal rights and becoming more involved in household finance and investment decisions. Women also are exposed to new economic opportunities such as credit and microfinance. Regular meetings offer chances to share experiences and information.

In Nepal, the program will soon meet its goal of training 120,000 women. Over 99 percent of the participants now actively keep savings, and many have taken out loans to begin small businesses. Observers credit the program with dramatically improving conditions--so much so that Nepal is currently modeling a national program after this pilot.

Tree Planting in Kenya

In Kenya, local men involved in planning a USAID-funded fuel wood tree planting project assumed that women would fulfill their traditional role of providing water for seedlings. After the seedlings were distributed, however, the men discovered that women were unwilling to do the extra hours of water-collecting particularly since they were not partners in the choice of trees designated to be planted. The failure to consult women in the planning phase of the project meant that their concerns were ignored and the seedlings died for lack of water.

However, the second phase of the project consulted with women to understand their interests. Planners used trees that the village women preferred and communicated with them about their watering needs. This time, with women's involvement, the project succeeded.

**Sustainable development is...
...build upon fundamental building blocks.**

Transparency, the rule of law, public participation, and access to information are the hallmarks of societies that are committed to sustainable development. With a commitment to such procedures, societies can have the trust needed in their public and private institutions. These institutions then act as models of citizenship by helping communities overcome barriers to sustainable development. Over the last several years many groups around the world have been creating new ways of increasing participation in economic, social and environmental stewardship. These changes often take the form of growth in non-governmental organizations and a shift in authority towards local communities. These changes give people greater means to take charge of their own lives and make us collectively better stewards of natural resources. This is why sustainable development is about **creating and enabling conditions**.

Transparency of Customs Regulations in Kazakhstan

In Kazakhstan, lack of access to reliable customs information has hindered individuals and firms from expanding their trade-related businesses. U. S. customs and computer experts have worked with the Customs Department in Almaty since 1999 to increase the transparency and efficiency of customs operations in a project supported by the U.S. Agency for International Development.

In 2001, the Customs Department launched a website (almaty.keden.kz) to provide the public with detailed information on customs services and provide updates on changes to customs regulations. U.S. advisors helped the Kazakhstani Customs department design and introduce the website.

The public can use the website anonymously to report illegal actions by customs officers or comment on the information service. The website facilitates greater public access to customs-related legislation, reduces abuse of the customs system by customs officials and removes an impediment to trade for local and foreign businesses.

State Department: Honoring Corporate Citizenship

The U.S. State Department established annual Awards for Corporate Excellence in 1999 to honor private companies that demonstrate outstanding corporate citizenship, and the recipients are indeed leaders in sustainable development initiatives worldwide.

Ford Motor Company was honored in 2001 for its innovative HIV/AIDS Workplace Program in South Africa. Working with the Centers for Disease Control and Prevention, the company promoted education and testing to combat the growing AIDS epidemic. The program has reached more than 12,000 employees, contract workers, pensioners and family members at plants in South Africa.

The Solar Electric Light Company (SELCO) received the award for its efforts to bring electric power to people without access to it. In India, Sri Lanka and

Vietnam, SELCO has sold and installed over 13,000 Solar Home Systems, many of them financed through local micro-credit systems. By bringing clean, affordable power to rural populations, SELCO has greatly facilitated sustainable economic development.

Panel 28

Sustainable development is... ... creating jobs and enabling conditions.

Change and adaptation are inherent in modern life, and particularly to the concept of sustainable development. Such changes can cause temporary displacement in the work force. Policies that facilitate economic adaptation and create new opportunities can help societies as move toward their goals for sustainable development. As economies evolve and old jobs disappear, new livelihoods are born. Flexibility and foresight can help workers, employers and governments adjust to a rapidly evolving world of opportunities.

Occupational Outlook Handbook

The rapid pace of technological and structural change means that old jobs are evolving—and new jobs are appearing—also at a rapid pace. To help workers cope with fluctuating employment conditions, the U.S. Department of Labor publishes an Occupational Outlook Handbook every two years.

The Occupational Outlook Handbook uses statistical and qualitative data to provide a comprehensive account of America's changing employment landscape. The Handbook describes what workers do on the job, their working conditions, the needed training and education, earnings and expected job prospects in a wide range of occupations. Students can use the Handbook to make well-informed decisions about their future careers and currently employed workers can use the same information in their professional development.

Sustainable development will involve dislocations and changes in the labor market. Workers need comprehensive, accessible and reliable information on these changing conditions in order to adapt. Publications like the Occupational Outlook Handbook equip the American workforce with the knowledge necessary to adjust in a flexible and competitive market.

WFED

In the bubbling hot springs of Yellowstone National Park, microbial life forms live at temperatures too hot for human touch. Discovered only a few decades ago, these mysterious organisms may hold the key to solving many problems facing the world today, ranging from cures for diseases to improved environmental clean-up.

The discovery in 1966 of the *Thermus aquaticus* bacterium, which led to the development of PCR genetic technology, demonstrated the scientific and economic importance of biological discoveries. In 1997, with assistance from the World Foundation for Environment and Development (WFED), Yellowstone negotiated the first bio-prospecting benefit-sharing agreement with a private sector research firm in the United States. This initiative marked the first time any U.S. national park was positioned to share in the economic and growing scientific benefits resulting from expanding biological research involving park resources.

Today, WFED is cooperating with the U.S. National Park Service to study the environmental impacts of bio-prospecting in U.S. national parks—the first

nationwide study of the environmental impacts of bio-prospecting benefit-sharing activities ever undertaken by any country.

**Sustainable development is...
... creating jobs and enabling conditions.**

Nations across the world are grappling with the implications of unsustainable harvesting and habitat destruction. It may mean that traditional industries or uses have to be curtailed or changed to allow the ecosystem to recover and stabilize. This is never an easy decision, but when done carefully, developing alternative livelihoods and incentives for change, we can improve conditions and set the stage for long-term growth and stability.

New England Fishing Industry

In the United States, the fishing communities of New England were forced to decide their future at the close of the 1980s: either dramatically reduce fishing in the Atlantic or risk completely destroying the industry through over-fishing.

It was not an easy choice. Fishing has been a cornerstone of New England's economy for more than two centuries, not to mention a deeply ingrained part of the region's traditional way of life. However, the severe depletion of the once-abundant fishing banks off the coast has prompted the National Marine Fisheries Service and the Federal courts to take action. Beginning in 1994, certain regions of the Grand Banks and George's Banks were closed to fishing. Limits on catches and restrictions on fish size were put into place throughout the region. However, progress was not made fast enough, resulting in a new Sustainable Fisheries Act in 1996 and re-implementation of the original program in 1999. In the meantime, affected cities, fishermen, the seafood industry and the New England Fishery Management Council are discussing the best course of action to maintain the livelihoods of fishermen today and for generations to come.

Hawai'ian Islands Humpback Whale Marine Sanctuary

In 1992, the government of Hawai'i made the difficult economic decision to designate waters off the coast of the islands of Maui, Molokai and Lanai as a protected sanctuary for humpback whales. The sanctuary preserves the habitat of the whales and also increases educational awareness of the animals and their habitat.

Humpbacks have been migrating to that region during the winter at a rate of about 4,000 to 5,000 per year. At the site, the whales breed and raise their calves, making the area the only place in the United States where the whales breed and a critical habitat for the Pacific population of the whales. In 1982, the National Oceanic and Atmospheric Administration requested that Hawai'i delegate a marine preserve for the whales. Fierce debate resulted, pitting portions of the population whose livelihood depended on the waters against those interested in creating a whale preserve. Fishermen lobbied to keep the sea open throughout the 1980s. However in 1992, the U.S. Congress and the state of Hawai'i formally set aside the preserve. Negotiators determined a necessary balance with the fishermen and established a council of 25 members, who oversee the preserve.

**Sustainable development is...
... creating jobs and enabling conditions.**

Alien invasive species are a significant, unintended consequence of greater global travel and trade. With more efficient means of transportation have come greater opportunities for ecological disturbance. Without caution, species can be introduced to regions without natural predators, destroying food webs and habitats. Without caution and means to control the spread of existing invasive species, achieving sustainable development will be virtually impossible.

Asian Long-Horned Beetle

Scientists and local, state and federal governments have made headway in limiting the spread of the Asian Long-Horned Beetle since its first detection in the U.S. in 1996. The beetle arrived in the U.S. by way of infested shipping pallets from China. The species is particularly dangerous to U.S. forests, potentially causing up to \$650 billion in damage. The beetle is very difficult to detect because it burrows deep into trees, leaving few signs of infestation until the tree dies.

Using museum data from the Smithsonian Institution, ecologists at the University of Kansas forecast the likely spread of the beetles in the U.S. by comparing ecosystem types between its native habitats and those favorable in North America. By projecting the potential spread of the beetle and calculating forests at risk, targeted and effective management strategies were developed that saved time and money in battling this pest. With new scientific technology, screening methods and expanded local, state, federal and international cooperation, the threat of this invasive species can be stopped.

Zebra Mussels

The Zebra Mussel was first discovered in the U.S. near the city of Detroit, Michigan in 1988. Originally a native of Eastern Europe, the species was likely introduced from ship ballast tanks. The mussel has already spread throughout the Great Lakes region of the U.S., making control efforts important for the survival of a variety of fresh water organisms in North America and to reduce the fouling costs of these colonizing organisms.

The mussels remove algae from the water, giving the water a false appearance of cleanliness. Rather than making the water clean, however, the mussels starve other microscopic organisms that are dependent on the algae for survival, causing the destruction of food chains. Commercially, the mussels clog water systems, costing millions of dollars annually in cleanup efforts.

Marine- and fresh-water alien invasive species are a serious threat around the world. The U.S. works with other countries to understand their spread and develop improved techniques to eliminate the vectors of invasion. The Smithsonian Environmental Research Center runs the National Ballast Water Information Clearinghouse for the synthesis, analysis, and interpretation of national data concerning ballast water management and ballast-mediated invasions. NOAA works to help develop technologies to kill larvae in ballast tanks. Preventing the

introduction of alien invasive species is far less expensive than combating them once they have taken root.

**Sustainable development is...
... a human concept.**

When communities take ownership of their development, balancing their interest in economic growth with social development and environmental stewardship, they can find solutions to build the future they envision. By providing communities with information how others have faced the challenges of sustainable development, we can help empower all in the transition to sustainability. Scientifically sound, community-led efforts offer great hope for sustainable development. These efforts provide solutions at the scale in which people actually know and experience problems. By working together in their localities and linking with other groups and areas, we are creating another world-wide web—one of people sharing solutions and building the tomorrow they envision. This is why sustainable development is created by **communities**.

Communities possess many different kinds of resources that make them resilient and capable of change. Local businesses, voluntary organizations and government agencies each contribute specialized skills and experiences.. Sustained dialogue and interaction build social capital that helps people solve common problems. By working together, communities can mobilize these assets to make progress toward sustainable development.

Clean Cities

The U.S. Department of Energy's Clean Cities program supports voluntary public-private partnerships that deploy alternative fuel vehicles and build supporting alternative fuel infrastructure. Clean Cities helps local businesses and governments build vibrant local organizations that set goals, build coalitions and secure commitments for implementation.

In its first decade, Clean Cities coalitions have appeared in 80 communities from 41 states. In Santa Monica, California, the municipal government pledged to operate 75% of its vehicle fleet on alternative. The United States Postal Service has purchased 200,000 compressed natural gas (CNG) vehicles.

The Department of Energy has also helped communities in other countries implement Clean Cities programs. In 1995, a coalition of citizens, firms and government agencies in Chile launched Clean Cities Santiago. The city now boasts 500 natural gas taxis, 12 CNG buses and six refueling stations.

Farmers' Markets

Farmers' markets bring fresh, locally grown fruits and vegetables to urban centers. These direct marketing arrangements strengthen the economic, social and environmental linkages between urban and rural areas. Almost 3,000 farmers markets in the United States expand economic opportunities for local communities and small farmers who deliver their produce daily. Consumers enjoy the chance to buy freshly grown produce, as well as the opportunity to learn more about their food and the people who grow it.

Farmers' markets fill niches in the food supply, offering a variety of organically grown produce and other specialty products that can be targeted to specific populations. Moreover, farmers markets help build community support for farmers and support of conservation and environmental protection.

**Sustainable development is...
... communities.**

Communities are defined by networks of people connected by bonds of mutual trust, interdependence and care. Unsurprisingly, community-based approaches to safety and health care tend to be more responsive, supportive and effective than initiatives that ignore the importance of human bonds. Programs that build and draw upon community capacities make a greater impact on well-being, as well as a more effective contribution to sustainable development.

Safe water for households

To help meet the global need for safe water, the Department of Health and Human Services' Centers for Disease and Prevention (CDC) and the Pan American Health Organization (PAHO) developed an approach to improving water quality at the household level. This approach, called the Safe Water System (SWS), has three elements: treatment of contaminated water using locally produced disinfectant solution, safe storage in narrow mouthed containers, and behavior change techniques.

Through the support of the U.S. Agency for International Development, UNICEF, and other organizations, the SWS has been implemented in ten countries in South America, Africa, and Asia. Based upon partnerships among government, NGOs and the private sector, the approach includes support of social marketing for demand creation as well as community mobilization, coupled with NGO and commercial distribution of disinfectant and containers. SWS field tests have consistently shown in a 40 to 60% reduction of risk of diarrhea.

Global Alliance for Improved Nutrition

Each year, common illnesses threaten the health and lives of millions of people in developing countries simply because individuals lack adequate vitamins and minerals in their diets. Experience has shown that food fortification with key micronutrients such as Vitamin A is a complementary cost-effective, sustainable nutrition strategy for reducing micronutrient deficiencies in these vulnerable populations.

The U.S. Agency for International Development (USAID) works in partnership with others to promote the use of proven technologies to ensure the safety and acceptability of fortified foods. USAID supports the Global Alliance for Improved Nutrition (*GAIN*) initiative, a global partnership comprised of bilateral, multilateral, private sector, foundation, UN, NGO and academic partners committed to saving lives and improving health by eliminating vitamin and mineral deficiencies. The U.S. Department of Health and Human Services' Centers for Disease Control and Prevention also collaborates with global partners and developing countries, strengthening epidemiologic and laboratory capacity to assess and monitor micronutrient status. Together with other public health interventions, these efforts decrease child and maternal morbidity and mortality, lessen health care costs, improve productivity, and promote the ability of populations to achieve their physical and intellectual potential.

**Sustainable development is...
... communities.**

Development efforts naturally depend on the effective management of common resources, but private cooperation can also yield substantial benefits for farmers, businesses and communities. Through cooperation, smallholders and artisans can reap the advantages of scale. They can also share equipment, infrastructure and ideas. Collaborative efforts make communities better off and the resulting networks of trust and relationships pave the way for future development.

Agricultural Cooperative Development International/Volunteers in Overseas Cooperative Assistance (ACDI/VOCA)

ACDI/VOCA is a nonprofit international economic development organization sponsored by major American agricultural cooperatives and farm banks and U.S. agencies such as USAID and USDA. Under its Farmer-to-Farmer program, farmers around the world are trained in cooperative management, credit, marketing and finance. As a result of successful training, Ethiopian co-ops nearly doubled their rate of short-term loan repayment to banks. And for the first time in history, dividends were paid to the cooperatives' 25,000 members. In 1997, these cooperatives came together into larger producer unions, generating bargaining power that helped farmers reduce input costs by over \$4 million through a competitive bidding process.

The sustainable agriculture community, and indeed the world, lost a leader on September 11th. John Ogonowski was the pilot on American Airlines Flight 11 that was crashed into the World Trade Center. He is remembered for his generous efforts on behalf of farming in Massachusetts and particularly for immigrant farmers from Cambodia whom he assisted as part of the New Entry Sustainable Farming Project (NESFP), a project of Tufts University that is funded by the USDA. He made land behind his home available to these farmers and his farm became the first all-commercial "mentor farm" -- a training site for these beginning growers.

Peace Corps

Conceived in 1961 by U.S. President John F. Kennedy, the Peace Corps brings talented American college graduates into partnership with communities abroad, building ties between cultures and sharing worlds of experience. President George W. Bush has proposed doubling the size of the Peace Corps.

Peace Corps volunteers help communities develop economic and social infrastructure. They build schools and start clinics, advise small businesses and assist in environmental management. Now in its fourth decade of operation, the Peace Corps program has introduced over 165,000 American citizens to life in 135 different host countries and continues to contribute to sustainable development and international understanding.

In the Peace Corps program, volunteers become an integral part of the communities they serve. After two years of intense cooperative living, returned Peace Corps volunteers bring their experiences back to the United States, where

many of them remain involved in various aspects of sustainable development work. Seven returned volunteers serve in the United States Congress, and many others have built careers in international development and the public service.

**Sustainable development is...
... communities.**

People standing together can be a powerful force for change. When individuals and communities come together to share ideas and expertise, they take a step toward sustainable development efforts. Public environmental education and fundraising are important elements of many sustainable development programs. Engaged citizens can spur government involvement and assistance for sustainable development efforts.

Five-Star Restoration

Wetland restoration is a way to return habitats to their former healthy and fully functioning conditions. The Five-Star Restoration Program, a project of the Environmental Protection Agency, is one of several public and private partnerships that brings together citizen groups, corporations, youth conservation corps, landowners and government agencies to restore wetlands and stream banks.

The program provides challenge grants, technical support and peer information exchange to support community-based restoration projects. One project in Utica, New York, received a \$20,000 grant to restore a marsh that shelters 190 bird species and 250 plant species. In the early months of the program, organizers extracted six tons of garbage from the marsh, removed invasive species and improved existing trails. Volunteers are also developing a nature interpretation trail system to enhance public understanding of the wetlands' environmental importance.

Sonoma County

Sonoma County, California, is one of the world's most fertile agricultural regions and home to farms that generates \$2,000 million in income annually. In the 1980s, rapid growth in San Francisco threatened to turn farms and open spaces into housing developments. Community groups feared that development would undermine the county's vibrant agricultural industry and put pressure on its remaining open spaces, home to native plant and animal species such as the endangered northern spotted owl.

After nearly a decade of campaigning, educational programs and outreach, a coalition of agricultural and environmental community groups successfully passed an initiative designed to save Sonoma County's farms and open spaces in 1990. Since then, a small tax has raised more than \$10 million per year for conservation. Citizen engagement and innovation have helped finance and promote the sustainable development of the region.

**Sustainable development is...
... a multidimensional and interdisciplinary concept.**

Often, we find better solutions when we integrate approaches that draw on the information and successes of seemingly disparate fields. We need not choose between valuing the past and protecting the future. Sustainable development includes preservation of cultural icons and deep traditions while moving into the future. Cooperation between all stakeholders--public and private, corporate and citizen, local, regional and national-- creates the basis for successful long-term stewardship of our natural and cultural resources. International cooperation among governmental and private entities can promote and facilitate community-based action, voluntary initiatives and the role of local organizations and contribute toward the achievement of sustainable development goals. This is why sustainable development is created through **partnerships**.

Historical Sustainable Development in Vermont

The Marsh-Billings-Rockefeller National Historical Park is the only national park to focus on conservation history and the evolving nature of land stewardship in the United States. Opened in June 1998, Vermont's first national park preserves and interprets the historic Marsh-Billings-Rockefeller property.

The park is named for George Perkins Marsh, one of the nation's first global environmental thinkers, who grew up on the property, and for Frederick Billings, an early conservationist who established a progressive dairy farm and professionally-managed forest on the former Marsh farm. Frederick Billings's granddaughter, Mary French Rockefeller, and her husband, conservationist Laurance S. Rockefeller, sustained Billings's thoughtful practices in forestry and farming on the property over the latter half of the 20th century. In 1983, they established the Billings Farm & Museum to continue the farm's working dairy and to interpret rural Vermont life and agricultural history.

Federal Historic Preservation through Tax Incentives

Sustainable development focuses on protecting resources for future generations to enjoy. Preserving irreplaceable historical and traditional sites is an important part of sustainable development strategies, since these locations form an integral part of each generation's cultural inheritance.

In the United States, the National Park Service and the Internal Revenue Service have cooperated with local, state, and federal agencies to preserve historic properties by providing tax incentives for maintenance and rehabilitation. Since 1976, more than 27,000 historic properties have been rehabilitated and saved, and many of the preserved structures now provide affordable housing for low and moderate-income families. The tax incentives have also stimulated private rehabilitation efforts worth over \$1,800 million. By orienting incentives toward the goal of historical preservation, the tax incentive program has protected important pieces of America's cultural heritage.

**Sustainable development is...
... created through partnerships**

Partnerships allow governments, corporations, organizations and people to band together to protect the environment while at the same time promoting sustainable economic development. The relationship between public and private groups results in some of the best ideas for meeting the needs of all those involved, and results in the continuing engagement of people and groups today and for years to come.

NetMark

Malaria strikes over half a billion people each year. Despite concerted efforts to control it, the disease has grown rapidly in nearly every country it has touched.

Insecticide-treated materials (ITMs) represent a promising step forward. Current data from Africa indicate that ITM use can reduce child mortality rates by up to 19%, with some country studies suggesting that as much as 42% of mortality for children under 5 years of age can be avoided. In a ground-breaking collaboration between the public and private sectors, the U.S. Agency for International Development (USAID) and its partners have launched NetMark, an innovative program designed to promote the use of life-saving ITM products in malaria-prone regions. NetMark is a time-limited and catalytic investment by USAID intended to open and build a sustainable commercial market for ITMs. NetMark represents a sustainable, cost-effective, high-impact and large-scale approach to development that combines the complementary resources of donors and private businesses in a mutually beneficial way.

Sustainable Coffee

Millions of people begin their day with a steaming cup of hot coffee, but few know where it came from. A heavily traded commodity, coffee is centrally important to the economies of many developing countries. Recent partnerships between NGOs and the public and private sectors have successfully begun to harness the coffee industry's potential to advance sustainable economic development.

Equitable and sustainable partnerships have begun. Seattle's Best Coffee, a U.S. firm, purchases organic, shade-grown coffee from indigenous growers in Peru whose stewardship of the land protects migratory bird species and preserves threatened ecosystems. Starbucks, another U.S. company, markets "fairly traded" coffee grown by small cooperatives that receive higher prices for their produce. The U.S. Agency for International Development, supported by research at the Smithsonian and the USDA Forest Service, have pledged to deepen cooperative efforts with firms and NGOs to make coffee a central part of producer countries' sustainable development strategies.

These specialty coffees, be they organic, "bird-friendly," "shade grown" or "fairly traded," permit consumers to support conservation and economic development every time they drink a cup of coffee. By "greening" the coffee market, these partnerships promise better jobs and better coffee for all involved.

**Sustainable development is...
... created through partnerships**

Partnerships between public groups, concerned citizens and all levels of government help foster cooperative efforts in support of sustainable development. Citizens and groups can help call attention to problems and develop potential solutions. Governments often have a crucial role to play in implementing solutions through funding, research and creating enabling environments through incentives. Water – the most crucial resource for life—particularly demonstrates this case. Partnerships between the government and its citizens can help ensure that our waters stay clean and available for generations to come.

New York Watersheds

Eight million thirsty New Yorkers depend on water from the Catskill and Delaware rivers. When agricultural and industrial development near the watersheds began to threaten water quality in the region, communities took action and a partnership that linked local, state and federal government agencies began.

The New York State government and the U.S. Department of Agriculture initiated a watershed management program to use natural processes to purify and protect water bound for New York City. One part of the joint federal-state program leases adjacent lands from farmers in the watershed for fixed-term contracts, ranging from 10 to 15 years. During this period farmers may not farm or use the land for grazing, reducing the potential for watershed contamination. Funds from New York State and USDA also are used to create riparian barriers in order to stop erosion. Additionally, the program involves surrounding communities, promoting “Whole Farm Plans” that encourage farmers to avoid using potentially harmful chemicals and procedures near the watershed. Pilot projects have shown that such programs can remove silt, pathogens, phosphorous, nitrogen and sediments from the water, making it safer to drink.

Salmon Repopulation in Washington State

Overfishing of salmon coupled with habitat destruction in Washington and the rest of the Pacific Northwest have resulted in the severe depletion of native salmon. In 1999, Washington State began a program to repopulate the salmon in the Puget Sound region.

The plan uses a three-pronged approach. First, harvesting of wild salmon will be limited. Secondly, hatcheries will be more careful not to interfere with wild schools of fish. Identification programs have been put into place so that fishermen would be able to determine wild salmon from hatchery-bred fish. Wild salmon must be returned to the wild, but hatchery bred fish can be kept. Thirdly, Washington will undertake initiatives to improve habitat for the salmon and regulate further development on habitat areas that still exist. Officials are evaluating the design of “fishways” to allow salmon to pass in regions currently blocked by dams and other obstructions. The state now requires that developers take habitats into account when developing areas along rivers. These steps are geared to aid in the repopulation of salmon in their natural habitat.

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Sustainable development is... ... created through partnerships

Global prosperity is sustained by energy use, but we face the challenge of needing conservation, repairing and modernizing our energy infrastructure, and increasing our energy supplies in ways that protect and improve the environment. Each of these challenges is critical for sustainable development. Public-private partnerships for research, development and implementation of products and processes that help us meet these challenges are important.

Energy Star

In 1992 the U.S. Environmental Protection Agency, in collaboration with the U.S. Department of Energy, introduced Energy Star, a voluntary program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Beginning with computers and monitors, the program has since expanded to include major appliances, office equipment, lighting, consumer electronics and more. The Energy Star label now covers new homes and commercial and industrial buildings.

Through partnerships with more than 7,000 private and public sector organizations, Energy Star delivers the technical information and tools that organizations and consumers need to choose energy-efficient solutions and management practices. In 2001, Americans saved \$5 billion on their energy bills due to Energy Star—without sacrificing product features or quality. Since its creation, Energy Star has been a driving force behind the widespread use of such technological innovations as LED traffic lights, efficient fluorescent lighting and power management systems.

Alternative Fuel Vehicles and Incentives for Early Adoption

Alternative fuel vehicles (AFVs) promise to reduce automobile exhaust dramatically. Efforts by the public and private sectors to help these new technologies spread create an intriguing partnership.

Several major automobile manufacturers have introduced mass-produced AFVs that reduce emissions and improve energy efficiency. Early adopters have created a critical mass of demand that encourages further investment in research, development and production. Government agencies have helped develop these technologies through research and help bring them into the market by certifying AFVs and offering incentives for purchase. Many AFVs have been labeled SULEVs (Super Ultra Low Emission Vehicles), helping consumers choose environmentally friendly models. Some states offer tax benefits, rebates and lane privileges to drivers who make the leap to AFVs. . Although AFVs are still only a small part of the overall market in the United States, continued progress on reducing costs and improving performance will help make these vehicles more popular in the years to come.

Panels 39-40: conclusions and Credits